

What is claimed is:

1. A method of recognizing an image of a nozzle hole, comprising picturing a nozzle hole of a liquid droplet ejection head in a state of being filled with a function liquid to thereby perform image recognition thereof,

wherein the nozzle hole is pictured synchronously with application of a driving waveform to the liquid droplet ejection head, the driving waveform causing single-period micromotion of a meniscus surface of the nozzle hole.

2. The method of recognizing an image of a nozzle hole according to claim 1, wherein the picturing is performed at a timing in which the meniscus surface is pulled into an inside of the nozzle hole due to the driving waveform.

3. The method of recognizing an image of a nozzle hole according to claim 1, wherein the picturing is performed by causing a strobe to emit light to the nozzle hole.

4. A method of correcting a position of a liquid droplet ejection head, comprising:

the step of recognizing an image of a position of a nozzle hole of a liquid droplet ejection head by using the method of recognizing an image of a nozzle hole according to claim 1; and

the step of correcting positional data of the liquid droplet ejection head based on a result of recognition in the recognizing step.

5. A method of inspecting a nozzle hole comprising picturing a nozzle hole of a liquid droplet ejection head in a state of being filled with a function liquid to thereby check presence or absence of a foreign matter adhered thereto,

wherein the nozzle hole is pictured at a timing when a driving waveform is applied to the liquid droplet ejection head, the driving waveform being such that a meniscus surface of the nozzle hole is pulled inside.

6. The method of inspecting a nozzle hole according to claim 5, wherein the liquid droplet ejection head has a plurality of the nozzle heads, the method further comprising:

the step of ejecting, for inspection, a function liquid from all of nozzle holes of the liquid droplet ejection head toward an inspection area;

the step of determining a defective nozzle for determining a nozzle hole with poor ejection, based on a result of ejection in the inspection area,

wherein, after the step of determining the defective nozzle, the nozzle hole with poor ejection is pictured as a nozzle hole to be made an object of inspection, by applying the driving waveform to the liquid droplet ejection head.

7. An apparatus for recognizing an image of a nozzle hole in which a nozzle hole is pictured in a state of being filled with a function liquid to thereby perform image recognition thereof, comprising:

a strobe for irradiating the nozzle hole with picturing light;

a recognition camera for picturing the nozzle hole irradiated by the strobe;

a head driver for applying a driving waveform to the liquid droplet ejection head, the driving waveform causing single-period micromotion of a meniscus surface of the nozzle hole; and

a strobe driver for causing the strobe to emit light synchronously with application of the driving waveform to the liquid droplet ejection head.

8. The apparatus for recognizing an image of a nozzle hole according to claim 7, wherein the driving waveform is a waveform which pulls the meniscus surface into an inside of the nozzle hole, and wherein the strobe driver causes the strobe to emit light at a timing in which the meniscus surface is pulled into the inside of the nozzle hole.

9. The apparatus for recognizing an image of a nozzle hole according to claim 7, wherein the recognition camera is fixed to a position facing a nozzle surface of the liquid droplet ejection head.

10. A liquid droplet ejection apparatus for selectively ejecting a function liquid from a nozzle hole while moving the liquid droplet ejection head relative to a workpiece, comprising:

the apparatus for recognizing an image of a nozzle hole according to claim 7;

storage means for storing positional data of the liquid droplet ejection head,

wherein the positional data is data as corrected based on a result of recognition of a position of the

nozzle hole by the apparatus for recognizing an image of a nozzle hole.

11. A method of manufacturing an electro-optical device, comprising ejecting a function liquid from the liquid droplet ejection head by using the liquid droplet ejection apparatus according to claim 10 to thereby form a deposition portion on a substrate serving as a workpiece.

12. An electro-optical device comprising a deposition portion formed on a substrate serving as a workpiece, the deposition portion being formed by a function liquid ejected from the liquid droplet ejection head by using the liquid droplet ejection apparatus according to claim 10.

13. Electronic equipment having mounted thereon the electro-optical device according to claim 12.